the dark edging along the shafts of the centre tail-feathers, which in *C. ruficollis* are wholly dark, and in *C. schænicola* are banded broadly rufous, terminating black and white. It is very near to *C. rustica*, Wallace, from the Island of Bouru, which is more rufous on the head and breast.

## MUNIA SUBUNDULATA, n. sp.

Description.— 3 above pale umber-brown, darker on the head, pale grey on rump, a few feathers edged paler; the upper tail-coverts dull yellow; tail-feathers olivaceous umber-brown, faintly edged with the same yellow tint; quills pale chestnut on outer web, umber-brown on inner, and indistinctly barred. Sides of head umber-brown, becoming dark chestnut on chin and throat; breast and flanks white, feathers very narrowly barred or margined rufous-brown; abdomen and under tail-coverts dull white, the latter sparingly streaked with brown; feathers of the back finely pale-shafted.

Bill dark grey; feet plumbeous; irides red.

Length 4.3 inches, wing 2.1, tail 1.7, tarsus 55, bill at front 0.45. Q is duller brown above, with no white shafts to the feathers, a distinct green tinge upon the tail-feathers, otherwise as in M. undulata. Change of coloration in young males commences on centre of the throat, extending towards the base of bill into the dark chestnut, and towards breast into the undulated colouring of those parts.

Obtained in the Munipur valley both on Lake Logtak and the head of the Barak river. It is very nearly allied to, but distinct from M. undulata, Latham, in which the undulations are broad, the general coloration more rufous, and the tail more pointed. It is also near to M. nisoria from Java and Malacca; but in that bird the tail-coverts are grey, with no trace of the fulvescent common to the two continental forms. Lord Walden was the first to notice this species as distinct, in specimens from Burmah, in his collection, which are identical with my own from Munipur: he has kindly allowed me to now describe it.

# 7. On the Coleoptera Geodephaga of Chile. By Edwyn C. Reed, C.M.Z.S.

[Received January 6, 1874.]

# (Plate XIII.)

In this attempt to enumerate the Chilian species of the Colcopterous families Cicindelidæ and Carabidæ the first difficulty is to define the area under consideration. The governments of Chili, Bolivia, and the Argentine Confederation have been trying for some years past to settle the question of the boundaries of their respective States. Chili claims dominion over the strip of country between the Andes (i.e. the line of water-parting) and the Pacific, from 24°S. to Cape

















7.

A T. Hollick

Mintern Bros imp.



Horn, and has, as far as I can see, every right to it; but it seems that in Patagonia the Andes disappear, and there is therefore no definite boundary. Again, on the north, Dr. Philippi found during his journey in the desert of Atacama that the great South-American backbone was utterly dislocated there; and in place of a continuous chain with a well defined water-parting, he found a plateau of considerable height and isolated mountain cones; and as no rain falls just there, the dividing line cannot be found.

One zoological region, however, which I may call Chili Proper, is very well defined,—the desert of Atacama, in which a dozen species of Coleoptera have not yet been found, being the northern boundary (24° S.), the archipelago of Chonos (about 45° S.) the southern,

the Pacific the western, and the snowy Andes the eastern.

The interruption of the Andean chain in Atacama has no importance with regard to the insect fauna, as uo species appears to be able to

cross that arid region.

We have therefore to deal with a long narrow strip of land, extending twenty-one degrees from north to south, with a width of but two and a half degrees in its widest part, and presenting more climatic peculiarities than, probably, any other part of the world of equal extent.

In addition to the Andes, a coast-range runs through Chili from north to south, with many peaks from 4000 to 5000 feet in height. Between the Andes and the coast-range lies the "central plain" of Chili, with a height above the sea of 1800 feet at Santiago, thence southwards sloping down to the sea-level at Port Montt, and rising northwards to form the high tablelands of Atacama and Bolivia.

With regard to climate, most travellers agree that it rains sometimes in the desert of Atacama; but a difference of opinion exists about the amount; some state that it rains there nearly every year, while Dr. Philippi states that it probably has but few showers in a

century.

About Valdivia, on the other hand, little difference of opinion can exist, as a week of dry weather is an exception to the rule. About one hundred and twenty inches may be taken as the average yearly rainfall of Valdivia.

This abundant rainfall in the south naturally produces a varied and rich flora; but, strange to say, Chili is far from rich in insects, either in species or individuals. About four thousand species of vascular plants are recorded, while the Coleoptera scarcely pass two thousand species; and many of these appear to be very rare.

Gay, the author of the 'Historia Fisica y Politica de Chile,' after collecting assiduously for many years, described only about 1500 species of insects of all orders; and in this number he included all previous descriptions that he was acquainted with, and introduced many insects erroneously into the Chilian Fauna.

On my arrival in Chili, in 1866, some 3000 species of all orders were known; and even now they scarcely reach 4000, and new

species are not as easily obtained as formerly.

Owing to the gradual transition of climate in Chili it is difficult to divide the country into districts or "centres;" but if this latter

word may be used in a limited sense, and applied to parts where a number of species are most common and whence they become fewer on all sides, then we may define three "centres" or districts in Chili. These I have already pointed out, in a communication to the Bristol Naturalists' Society on the Botany of Chili (November, 1873).

"Northern Chili" extends from Atacama to Coquimbo, and is little else than the southern border of Atacama. Its characteristic Coleoptera are a few genera of Tenebrionidæ, such as Callyntra and allies. Cicindela peruviana is peculiar to this district. I have never collected there myself; but from small collections that I have received from Mr. Thomas King and others, I consider it to be very poor in species.

Gay, in his work above alluded to, appears to have taken a large number of species there; but both Dr. Philippi and myself are convinced that the greater part of these are not correctly referred to that

locality.

"Central Chili" may extend from Coquimbo to Arauco (36° S.). It is most rich and varied botanically; and near the celebrated baths of Chillan more species of animals and plants occur than probably at any other place in Chili; here too we find the northern limit of the genus Carabus in Chili; C. chilensis and Cicindela chilensis are peculiar to this district. Near Chillan and to the south dense forests occur. The province of Arauco has never been explored, as the Indians render it very unsafe; when it is, many fine species will

surely be found there.

"Southern Chili," consisting of the provinces of Valdivia and Llanquihue, is one dense forest on the coast and for some forty miles inland, while the central plains are well watered and covered with bush. The species found in this province appear to have a wider range than any other in Chili. The island of Chiloe and part of Chonos must be included in this district. In 1870-71 I was commissioned by the Chilian Government to explore Chonos; and the results of my journey convinced me that nearly all the species occurring there are stragglers from Valdivia, the number of species rapidly decreasing in the south. Few new forms are met with; and amongst these are a very few Magellanic species.

A few of the insects peculiar to this district are Cicindela gormazi, Systolosoma brevis, all the Chilian Carabi except C. chilensis and C. suturalis, Pachyteles biguttatus and marginicollis, Lecanomerus

marginatus, Lebia azurea, &c.

About four hundred miles west of Valparaiso is situated the island of Juan Fernandez. I carefully explored this island in 1872, and found that a number of its natural productions were similar to those of Chili, but that many new forms occurred. Of the six species of Carabidæ found there, three are also found in Chili, viz. Pristonychus chilensis, Bembidium punctigerum, and B. inconstans; the others are peculiar, viz. Trachysarus (gen. nov.) pallipes, Trechus femoralis, and Variopalpus crusoei (sp. nov.). The neighbouring island, Mas-a-fuera, has, I believe, never been explored entomologically; as a new species of Humming-bird has recently been found there, we may reasonably expect to find some new Coleoptera.

The remaining region, viz. the west coast of South America south of Chonos, appears to furnish but few species; but these are of the highest interest. Amongst the genera I may mention Migadops, Brachycælus, and Antarctonomus.

Owing to the number of exploring expeditions that have visited Magellan, each obtaining a few species and describing them as new, I fear that some names that figure in the list are only synonyms.

I have, however, reduced them as much as possible.

In conclusion I would call attention to the absence of tropical and subtropical forms from Chili. Crossing the Andes from Santiago to Mendoza, say one hundred miles mean distance, one finds the fauna entirely different, Brazilian forms, especially of Copridæ, occurring commonly there; but these cannot pass the lofty Andes, with the exception of some half dozen species that inhabit the higher regions and are found on both sides, and the Chilian fauna has more resemblance to the Anstralian than to that of any other part of South America. This has already been pointed out by various observers, especially Lacordaire, while Dr. Günther mentions two species of fish, viz. Mordacia mordax and Geotria chilensis, as occurring in both countries.

My best thanks are due to Mr. H. W. Bates for the kind assistance he has given in determining my species; and any merit that this paper may contain is chiefly due to him.

#### CICINDELIDÆ.

## Subfamily MANTICORINÆ.

AGRIUS FALLACIOSUS.

Agrius fallaciosus, Chevrolat, Ann. Soc. Ent. Fr. 1854, p. 666, pl. 19. fig. 1.

Picnochile magellanicus, Motsch. Etud. Entom. 1856, p. 33, pl. 1.

fig. 11.

Polyagrus schythei, Philippi, Ann. Univ. Chile, 1862, xxi. p. 408. Sandy Point, Straits of Magellan.

## Subfamily CICINDELINE.

CICINDELA PERUVIANA.

Cicindela peruviana, Lap. Etud. Entom. p. 35, et Sol. in Gay, Hist. Chile, Zool. iv. p. 115.

Occurs, but not commonly, on the southern border of the desert of Atacama; I believe this species has never been taken in Peru, despite its name.

#### CICINDELA CHILIENSIS.

Cicindela chiliensis, Aud. et Brullé, Arch. du Mus. i. p. 133, t. 9. f. 1.

Cicindela chilensis, Sol. l. c. p. 117.

Not uncommon on the banks of the Mapocho, near Santiago.

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CICINDELA GORMAZI. (Plate XIII. fig. 3.)

Cicindela gormazi, Reed, Entom. Monthly Mag. viii. 1871, p. 77. Besides the characters mentioned in my description, this species is distinguished from C. chiliensis by its broad apical lunule, the upper lobe of which is short and rounded; in C. chiliensis the upper lobe always forms a hook curved upwards and outwards.

A variety of C. gormazi occurs, in which all the white marks of the elytra are much broader, the lunules coalescing on the sides with

the base of the middle sinuous band.

Taken by Captain Vidal Gormaz, of the Chilian Navy, in the province of Llanquihue\*.

#### CARABIDÆ.

## Subfamily MIGADOPINÆ.

MIGADOPS BIMACULATUS, n. sp. (Plate XIII. fig. 7.)

Oblongus, subdepressus, niger nitidissimus; elytris irideis, utrinque macula reniformi rufa ante apicem et versus suturam; capitis vertice macula rufa; thorace transversim quadrato, postice haud angustato, angulis anticis et posticis productis, acutis, margine laterali explanato et valde reflexo; elytris vix striatis.

3. Tarsorum anticorum articulis quatuor dilatatis, subtus spongiosis; intermediorum articulis tribus subtus spongiosis, sed

vix dilatatis.

Long. 6 lin.

The perfectly glabrous four basal joints of the antennæ, simple fourth tarsal joint, and large median tooth of the mentum show that this very remarkable insect belongs rather to *Migadops* than to any other of the genera into which the anomalous family Migadopidæ has been divided.

The unique specimen of this species, figured on Plate XIII. fig. 7, was taken by Dr. Pendavis, of the Chilian Navy, on the banks of the river Aysen.

MIGADOPS DARWINII.

Migadops darwinii, Waterhouse, Ann. & Mag. N. H. 1842, ix. p. 138. Straits of Magellan.

MIGADOPS NIGROCÆRULEA, Waterh. l. c. p. 138. Straits of Magellan.

MIGADOPS OVALIS, Waterh. l. c. p. 139, t. 3. f. 3. Straits of Magellan.

BRACHYCŒLUS VIRESCENS.

Brachycælus virescens, Waterh. l. c. p. 136, t. iii. fig. 2 (Migadops). Brachycælus duponti, Chaudoir, Bull. Mosc. 1842, p. 848. Straits of Magellan.

<sup>\*</sup> Tetracha chilensis has been erroneously introduced into the Chilian lists; I have never met with a specimen found in the country.

Monolobus testaceus, Sol. l.c. p. 189, t. 3. f. 5.

A specimen of this species, taken by the late Dr. Jerman Krause, at Corral, in Valdivia, is in the collection of H. W. Bates, Esq.

ANTARCTONOMUS PERONI.

Antarctonomus peroni, Chaud. Bull. Mosc. 1861, ii. p. 519. Straits of Magellan.

# Subfamily TRACHYPACHINÆ.

Systolosoma Breve, Sol. l. c. p. 242 (1849).

Notioxenus bilunulatum, Motsch. Et. Entom. 1857, p. 111, t. i. f. 9. Common near the coast in the province of Valdivia and in Chiloe, running rapidly in the sunshine.

# Subfamily CARABINÆ.

CARABUS PSITTACUS.

Carabus psittacus, Gerstaecker, Linnæa Entom. xii. p. 425, t. iv. f. l.

Southern Chili, "Unique, in the Berlin collection."

There is a Carabus in the National Museum of Chili that, to a certain extent, resembles this species. It differs, however, in its longer elytra and slightly in marking; and as this species was described from a single specimen, I hesitate to describe a closely allied species without seeing more specimens. The specimen in the Museum was taken many years ago in the "Cordillera Pelada," in Valdivia; and although I have searched assiduously in the same locality, I have not been able to obtain more.

CARABUS SYBARITA, Gerst. I. c. p. 426, t. iv. f. 2. Southern Chili, "Unique, in Dohrn's collection."

CARABUS BUQUETII.

Carabus buquetii, Cast. Etud. Entom. i. p. 158, et Gerst. l. c. p. 428, t. iv. f. 4-11.

Carabus chilensis, Guér. Gen. d. Ins. ii. No. 1, pl. 3. Carabus dorsiger, Motsch. Bull. Mosc. 1865, iv. p. 284. Carabus chiloensis, Hope, Trans. Entom. Soc. ii. p. 128.

This species is very variable in size, in the form of the thorax, and in the degree of development of the "chain striæ" of the elytra; but it may always be distinguished from its nearest allies by the coarse punctation of the underside of the thorax. I have met with an extreme form which I was at first inclined to consider a separate species; it may be thus characterized:-

CARABUS BUQUETII, var. ELEGANTISSIMUS. (Plate XIII. fig. 5.)

Rather smaller and more slender than the ordinary form; similar in colour except that the thorax is much darker, and its golden margin narrower or imperceptible. In form it is distinguished by the strikingly narrower thorax, the greatest width of which is near the anterior angles, whence the sides are gradually sinuate-angustate to the base, the hind angles being remarkably acute. examples the "chain strize" of the elytra are very strongly marked, the oblong raised intervals of these strive being smooth and blackish.

The type form of Carabus buquetii is the commonest Chilian Carabus, but, strange to say, is not mentioned in Gay's work. It is found everywhere in Southern Chili. The var. elegantissimus is probably its most southern form, and was taken near Tres Montes (46° S.)

CARABUS GLORIOSUS, Gerst. l. c. p. 429, t. iv. f. 6.

Carabus chilensis, var.  $\beta$ , Solier, l. c. p. 126.

Carabus carinulatus, Motsch. Bull. Mosc. 1865, iv. p. 284.

Occasionally found in the province of Valdivia.

CARABUS MOCHÆ, n. sp. (Plate XIII. fig. 4.)

C. glorioso (Gerst.) affinis, elongato-ellipticus, modice convexus; supra subopacus, cuprescenti-niger; elytris rubro-cupreis, sutura limboque laterali nigro-violaceis, interstitiis elevatis undique interruptis, alternis elevatioribus; corpore subtus cuprescentinigro.

Long. 11-12 lin.

The thorax in this species is always narrower than that of C. gloriosus, and rather more cordate in form, having its greatest width at a short distance from the anterior angles. The elytra are elongate-elliptical. All the depressed portions of their surface are opaque, without distinct striæ; and the narrow raised interstices are interrupted by innumerable transverse impressions, which cause them to appear as rows of shining tubercles. The alternate interstices, however, are more continuous.

Var. In some examples the elytra are dark green in colour, with

the suture and a lateral border coppery.

I discovered this fine species on the island of La Mocha, situated some twenty-three miles from the coast of Chili, in lat. 38° S. This island is of Tertiary formation, similar to the coast in front of it, and was evidently at one time connected with the mainland; but I feel sure that my species does not occur on the mainland.

CARABUS VALDIVIÆ.

Carabus valdiviæ, Hope, Trans. Entom. Soc. ii. p. 128; Gerst. *l. c.* p. 431, t. iv. f. 7–13.

Carabus chilensis, Sol. l. c. p. 126, t. ii. f. 1.

Small examples of this species resemble very closely robust individuals of C. buquetii; but they may always be distinguished by the perfectly smooth undersurface of the thorax.

This species is, after C. buquetii, the commonest Valdivian species.

CARABUS CHILENSIS.

Carabus chilensis, Esch. Zool. Atlas, ii. p. 9, t. viii. f. 7; var. a, Sol. l. c. p. 126.

The most northern form of Carabus in Chili; it is only found, as far as I know, near the baths of Chillan.

CARABUS DARWINII, Hope, Trans. Entom. Soc. ii. p. 129.

Carabus indiconotus, Sol. l. c. p. 127, t. i. f. 4.

One of the rarest of our Carabi, sometimes found on the island of Chiloe and to the south.

CARABUS SUTURALIS.

Carabus suturalis, Fab. Sys. Ent. p. 238; Gerst. l. c. p. 436. Carabus reichei, Guér. Rev. Zool. 1839, p. 297.

Straits of Magellan.

CARABUS SPECIOSUS, Gerst. l. c. p. 438, t. iv. f. 3.

I have an example which agrees perfectly with Gerstaecker's description, except in the colour of the elytra, which is golden-coppery like that of the head and thorax, instead of green with coppery suture and margins.

CARABUS MELANOPTERUS, Gerst. l. c. p. 439.

I have never seen this species.

CARABUS INSULARIS, Hope, Trans. Entom. Soc. ii. p. 129.

The type of this species is in the collection of Mr. Grut, who considers it a variety of C. buquetii.

Calosoma vagans, Dej. Spéc. Gén. v. p. 564.

This species is common throughout Chili from Atacama to Magellan. I know no other Chilian species of Carabidæ with such a wide distribution.

Subfamily OZENINE.

PACHYTELES BIGUTTATUS, Sol. l. c. p. 182 (Tropopsis).

On the sea-coast in Southern Chili.

PACHYTELES MARGINICOLLIS.

Pachyteles marginicollis, Sol. l. c. p. 181, t. iii. f. 3 (Tropopsis).

With the preceding. I consider the T. unicolor, Fairm., a var. of this species.

PACHYTELES GRACILIS.

Pachyteles gracilis, Chaudoir, Ann. Soc. Entom. Belg. xi. 1868, p. 69.

I have never met with this species.

Subfamily BROSCINÆ.

Cascellius eydouxii, Guér. Voy. Favor. t. ccxxv. f. 7.

Cascellius kingii, Curtis, Linn. Trans. xviii. p. 189.

Southern Chili, on the coast.

CASCELLIUS ÆNEONIGER.

Cascellius æneoniger, Waterh. Ann. & Mag. N. H. 1841, vi. p. 256. Cascellius niger, Blan. Voy. Pôle Sud, Zool. iv. p. 19, t. i. f. 13.

CASCELLIUS GRAVESII, Curtis, l. c. p. 183.

CASCELLIUS NITIDUS, Waterh. Ann. N. H. 1841, vi. p. 255. Tierra del Fuego.

CASCELLIUS TROBERTI, Sol. l. c. p. 201.

Southern Chili.

This species may be identical with one of the three preceding; but I have never seen it.

#### BARIPUS CLIVINOIDES.

Baripus clivinoides, Curtis, Linn. Trans. xviii. p. 185, t. xv. f. 100 (Cardiophthalmus).

Tetraodes lævis, Blan. Voy. Pôle Sud, Zool. iv. p. 36, t. iii. f. 6.

Straits of Magellan.

#### BARIPUS PARALLELUS.

Baripus parallelus, Guér. Voy. Favor. Mag. Zool. ix. t. cexxvii. f. l. Baripus subsulcatus, Sol. l. c. p. 240.

Southern Chili. Rare.

#### CNEMALOBUS DARWINII.

Cnemalobus darwinii, Waterh. Mag. N. H. 1840, iv. p. 356 (Odontoscelis).

Odontoscelis curtisii, Waterh. l. c. p. 356.

This species is very distinct from the other *Cnemalobi*, and may be at once known by the reflexed borders of the thorax. The type of *C. darwinii* is bottle-green, while *C. curtisii* is black; I can see no other difference between them. They were probably taken in the Straits of Magellan.

CNEMALOBUS OBSCURUS, Brullé, Hist. Ins. iv. p. 374 (1834).

Odontoscelis tentyrioides, Curtis, Linn. Trans. xviii. p. 187, t. xv. f. d.

Baripus aterrimus, Chaud. Bull. Mosc. 1835, p. 445.

Cnemalobus cyaneus, Brullé, l. c. p. 373. Cnemalobus cyathicollis, Sol. l. c. p. 194.

Cnemalobus germaini, Putzeys, Stett. Zeitschr. 1868, p. 365.

Cnemalobus gayi, Putz. l. c. p. 366.

Cnemalobus abbreviatus, Putz. l. c. p. 366.

Cnemalobus sulciferus, Philippi, Ann. Univ. Chile, 1864, p. 461.

This very variable species is common on the Andes and the coast-range, at an elevation of from 3000 to 8000 fect s.m.; and despite the number of synonyms that I have given, I believe I have omitted several others. On several occasions I have captured it by thousands

and found specimens agreeing more or less with all the above descriptions, but so connected by intermediate links that I feel compelled to unite them. The two following may be distinct, but I doubt it.

CNEMALOBUS STRIATUS, Waterh. Mag. N. H. 1840, iv. p. 358 (Odontoscelis).

CNEMALOBUS SUBSTRIATUS, Waterh. l. c. p. 359 (Odontoscelis).

Subfamily LICININÆ.

Eutogeneius fuscus, Sol. l. c. p. 255, t. iv. f. 8.

The only specimen I have ever seen of this species was found in Valdivia, and is in the National Museum of Chili.

Subfamily SPHODRINÆ.

PRISTONYCHUS CHILENSIS.

Pristonychus chilensis, Gory, Ann. Soc. Entom. Fr. 1833, p. 232; Sol. l. c. p. 228.

This species is placed by recent authors as a synonym of the European *P. complanatus*. I can see little or no difference between them; yet I have hesitated to unite them. Common in Chile and in the island of Juan Fernandez.

Subfamily Anchomenina.

Anchomenus distinctus, Sol. l. c. p. 203 (Agonum).

Anchomenus dejeanii, Sol. l.c. p. 205 (Agonum).

ANCHOMENUS CORDICOLLIS, Sol. l. c. p. 206 (Agonum).

Anchomenus Gayi, Sol. l. c. p. 207 (Agonum). Northern Chili.

Anchomenus ambiguus, Sol. l. c. p. 209 (Agonum).

The name ambiguus was preoccupied by Erichson for a Tasmanian species; as this, however, proves to belong to a distinct genus (Cyclothorax, W. Macleay), Solier's name may stand. This species is found in Southern Chili.

ANCHOMENUS CHILENSIS.

Anchomenus chilensis, Dej. Spéc. Gén. v. 724; Sol. l. c. p. 208 (?) (Agonum).

The commonest species of the genus in Central and Southern Chili.

Anchomenus melas, Sol. l. c. p. 210 (Agonum).

Nearly as common as the preceding in Central Chili.

Anchomenus circumdatus, Erichson, Meyen's Reise, Ins. p. 348.

Scarce. Southern Chili.

TROPOPTERUS GIRAUDYI, Sol. l. c. p. 212.

TROPOPTERUS DUPONCHELII, Sol. l. c. p. 213.

TROPOPTERUS NITIDUS, Sol. l. c. p. 213.

TROPOPTERUS MONTAGNEI, Sol. l. c. p. 214.

I have met with but one species of this genus, Tropopterus nitidus. The genus, which seems to be unknown to European coleopterists, is closely allied to Colpodes, being similar in shape to such species as C. grandicollis. The antennæ thickened towards the apex, and the grooved sternum, may suffice to keep it distinct. The fourth joint of the anterior tarsi in the  $\sigma$  is as broad as the preceding.

Southern Chili.

## Subfamily ANTARCTIINÆ.

HABROPUS CARNIFEX, Fab. Sys. El. i. p. 195.

Metius splendidus, Guér. Rev. Zool. 1839, p. 297; Sol. l. c. p. 184.

This species varies in colour from coppery-red to nearly green. It is found from Valdivia to Magellan, and perhaps at Buenos Ayres.

Antarctia femorata, Dej. Spec. Gen. iii. p. 535.

In the neighbourhood of Santiago.

Antarctia leucoscelis, Putzeys, Mém. Soc. Roy. d. Liége.

ANTARCTIA ANDICOLA, Dej. Spéc. Gén. v. p. 806.

Apparently closely allied to A. malachitica, which is not a Chilian insect, although given as such by Gay (l. c. p. 251), but from the Falkland Islands. Found "in the Andes of Chile" by Lacordaire.

Antarctia antiqua, Motsch. Bull. Mosc. 1865, iv. p. 275.

Very similar to A. flavipes, but with shining bronze-coloured elytra. Said to have been taken in Chiloe.

Antarctia flavipes, Dej. l. c. p. 533.

The commonest species of the genus in Chili, occurring everywhere.

Antarctia brevicornis, Putz. l. c. p. 15.

Described from a single male in the collection of Baron Chaudoir, taken by M. Germain.

Antarctia chilensis, Dej. l. c. v. p. 805.

Antarctia annulicornis, Curtis, Trans. Linn. Soc. xviii. p. 193.

A species from Port Famine, nearly allied to A. chilensis, but larger  $(4\frac{1}{2} \text{ to 5 lines})$ .

ANTARCTIA COQUIMBANA, Sol. l. c. p. 245.

Antarctia blanda, Dej. Spéc. Gén. iii. p. 529.

Specimens of this species taken near Valdivia do not not differ in the slightest from others received direct from the Falkland Islands, with which I have compared them.

ANTARCTIA EURYPTERA, Putz. l. c. p. 25.

A large species distinguished by its broad and depressed elytra; said to have been found on Mas-a-fuera Island.

ANTARCTIA LATIGASTRICA.

Antarctia latigastrica, Dej. l. c. p. 258; Sol. l. c. p. 250.

Common near Santiago.

ANTARCTIA LATICOLLIS.

Antarctia laticollis, Sol. l. c. p. 253; Putz. l. c. p. 30; Motsch. Bull. Mosc. 1865, xxxviii. pt. 2. p. 270.

The description agrees with that of Solier, as far as it goes; and although Motschulsky does not quote that author, I think his is the same species.

ANTARCTIA PUNCTICOLLIS, Putz. l.c. p. 31.

ANTARCTIA COMPLANATA, Blan. Voy. Pôle Sud, Zool. iv. p. 37.

Apparently closely allied to A. latigastrica, and possibly synonymous with A. harpaloïdes, Curtis.

Antarctia chalybea, Blan. l. c. p. 38.

Antarctia glauca, Blan. l. c. p. 39.

Subfamily Pterostichinæ.

TRIRAMMATUS UNISTRIATUS.

Trirammatus unistriatus, Dej. l. c. p. 232 (Pæcilus); Sol. l. c. p. 237 (Feronia).

Pterostichus prasinus, Curtis, l. c. p. 192.

Var. Trirammatus fulgidus, Chaud. Ann. Soc. Entom. France, 1835, p. 446.

A very common species in Central and Southern Chili.

FERONOMORPHA ÆREA.

Feronomorpha ærea, Dej. l. c. p. 279 (Feronia (Omaseus)); Sol. l. c. p. 224.

Omaseus marginalis, Curt. l. c. p. 191.

Very common and widely distributed in Central and Southern Chili.

FERONOMORPHA LUCIDA, Curtis, l. c. p. 192.

Nortes subæneus, Motsch. Bull. Mosc. 1864, p. 249.

FERONOMORPHA FISCHERI, Sol. l. c. p. 222.

FERONOMORPHA SULCATA, Sol. l. c. p. 223.

FERONOMORPHA RUFESCENS, Sol. l. c. p. 225.

LAGARUS CHILENSIS.

Lagarus chilensis, Dej. l. c. p. 251 (Feronia (Argutor)); Sol. l. c.

p. 232 (Feronia).

This species has the metathoracic episterna long and narrow, the prosternum distinctly margined at the end, the hind tarsi grooved at the sides; but the elytra have a long scutellar striole, unlike the typical *Logari*. The thoracic foveæ are single on each side and sulciform, similar to the North-American *Lagarus erythropus*.

Common in Central Chili.

PTEROSTICHUS ERRATICUS.

Pterostichus erraticus, Guér. Mag. Zool. 1838, t. 225. f. 3. (Platysma).

Pterostichus rufipalpis, Curtis, l. c. p. 192, 1838.

Pterostichus bonellii, Waterh. Ann. Nat. Hist. 1841, vii. p. 123.

Pterostichus tenuestriatus, Motsch. Bull. Mosc. 1864, p. 262 (Parhypates).

Pterostichus profundestriatus, Motsch. l.c. p. 263 (Parhypates).

Percus alienus, n. sp. (Plate XIII. fig. 8.)

Elongatus, subparallelus, niger subnitidus, palpis piceis; capite postice haud angustato, oculis vix prominentibus; antennis paulo compressis; thorace elongato quadrato-cordato, postice gradatim sinuatim angustato, angulis posticis rectis, basi lævi, foveis profundis; elytris humeris rotundatis, postice paululum dilatatis, apice late rotundatis sinuatis, supra punctato-striatis, interstitiis paulo convexis, tertio unipunctato.

Long.  $9-9\frac{1}{2}$  lin. 3 2.

This species offers all the chief characters of the European genus *Percus*, of which it has also the facies, resembling a small, slender *P. siculus*. The elytra are destitute of basal fold, the scutellum lying on the depressed pedicle; behind, the margins are a little explanated before the sinuation, and have there two marginal strice exterior to the row of large punctures. There are no humeral carinæ; and the strice are rather loosely and not deeply punctured; a rudiment of basal striole exists in the form of a fovea on each side of the apex of the scutellum. The fovea on each side of the base of the thorax is distant from the angle, broad and deep; the dorsal line also terminates behind in a deep impression.

This species is possibly the Feronia (Platysma) convexipennis, Fairmaire, Coléop. Chil. pt. i. p. 1; but as that author places it in the section Platysma, to which it has not the slightest resemblance, and does not mention the absence of basal fold to the elytra, which is the most conspicuous feature of the species, the identity is much open to doubt. Even if it be the same, Fairmaire's name cannot be

adopted, as his description has never been published, his paper not being obtainable by the usual means through commerce, and therefore not admissible according to the rules established by Zoological Congresses.

This species was taken by the late Dr. Krause at Corral, in

Valdivia.

#### FORTAX METICULOSA.

Feronia meticulosa, Dej. Spéc. Gén. v. p. 762; Sol. l. c. p. 234 (Feronia).

Fortax meticulosa, Motsch.

Feronia obscuripennis, Sol. l. c. p. 236.

Common in Central Chili.

#### FORTAX BLANDA.

Feronia (Steropus) blanda, Erich. Meyen's Reise, Ins. p. 348. Feronia marginata, Waterh. Ann. Mag. N. H. 1841, vii. p. 124. ? Feronia parvula, Sol. l. c. p. 236.

Differs from F. meticulosa in its smaller size  $(3\frac{1}{2})$  to 4 lines), shining elytra in both sexes, and reddish legs. Occurs with the preceding, but is much less common.

## Subfamily HARPALINÆ.

POLPOCHILA CHILENSIS.

Polpochila chilensis, Chaudoir, Bull. Mosc. 1837, vii. p. 19 (Melanotus).

Polpochila parallela, Sol. l. c. p. 217 (1849).

This genus has received four names, in the following order of date:—Melanotus, Dej., 1831 (name preoccupied in Coleoptera); Polpochila, Solier, 1849; Cratocara, Leconte, 1863; and Phymatocephalus, Schaum, 1864.

In Gay's work this species is stated to be  $1\frac{1}{2}$  line long and 2 lines wide, and to have been found in Valdivia. My specimens, however,

are 6 lines long, and were found in Central Chili.

#### PARAMECUS LÆVIGATUS.

Paramecus lævigatus, Dej. Spéc. Gén. iv. p. 45; Sol. l. c. p. 197. Common throughout Chili. The two following appear to be varieties of this variable species:—

PARAMECUS PARALLELUS, Chaud. Bull. Mosc. 1843, iv. 779.

PARAMECUS NIGER, Cast. Etud. Entom. i. p. 68; Sol. l. c. p. 198.

#### ANISOTARSUS LÆVIS.

Anisotarsus lævis, Curtis, Linn. Trans. xlviii. p. 194 (Harpalus). Harpalus æquilatus, Sol. l. c. p. 258.

Very common in Central Chili.

Anisotarsus punctobasis, Sol. l. c. p. 259 (Harpalus).

I have not seen this species, and am not sure that it belongs to the genus.

Anisotarsus Chilensis, Dej. iv. p. 294 (Harpalus).

This species, which varies much in colour, is common in Valdivia.

Anisotarsus amænus, Sol. l. c. p. 260 (Harpalus).

Anisotarsus rufus, Brullé, D'Orb. Voy. Ins. p. 35 (Anisodactylus).

Chilian specimens agree with those from the Pampas, except that the thorax is less rounded on the sides, and the row of punctures on the third, fifth, and seventh interstices is less distinct and regular. Although the mentum has a distinct tooth, and the soles of the tarsi are "spongiose," this species cannot be an Anisotarsus, its head having the form of that in Geopinus and allied genera. I do not propose a new generic name, in the doubt whether it may not belong to the little-known genus Cylloscelis of Curtis.

## LECANOMERUS MARGINATUS, n. sp.

Nigro-piceus, nitidus, elytris æneo-tinctis; palpis, antennis pedibusque flavotestaceis; thoracis margine exteriore elytrisque margine lato posteriore rufescentibus; thorace elytris dimidio angustiore, subquadrato, postice vix angustato, angulis rotundatis, supra lævi, foveolis latis vix impressis; elytris postice paulo dilatatis, ante apicem sinuatis, subtiliter striatis, striis suturali, octava et nona per totam longitudinem, cæteris apice solum impressis.

Long. 3 lin. ♂♀.

? Nemaglossa brevis, Sol. l. c. p. 215.

This species agrees very well with Solier's description of his Nemaglossa brevis; but the generic characters he gives are quite at variance with our insect. He describes the ligula as very narrow, and the paraglossæ as broad and attached to it; but the ligula of the species above described is elongate-quadrate, and the paraglossæ are narrow and spring from the lower part of the side of the lingua, curving away from it.

The only structural difference I can find between our species and the type of the Australian genus *Lecanomerus* is the rather larger basal joint of the auterior tarsi in the male. In the mode of dilatation of the second and third joints of the four auterior tarsi, their clothing, the form of the palpi and mentum, and in the facies of the

species there is the greatest similarity.

Occurs in Southern Chili, but is by no means common.

# Trachysarus, nov. gen. (τραχν's, rough, σάρος, brush).

Four anterior tarsi of the male with four joints moderately dilated, the fourth subbilobed, and all furnished beneath with a brush of coarse scaly hairs, not arranged in pairs as in the true *Harpali*, nor as a fine even brush as in the *Anisodactyli*. Palpi, terminal joint fusiform, attenuated and truncated at the apex, not hairy, except a

few bristles at the apex of the penultimate joint. Mentum with a pointed tooth in the emargination. Surface of the body impunctate.

TRACHYSARUS PALLIPES. (Plate XIII. fig. 6.)

Acupalpus pallipes, Germ. An. Univ. Chile, 1855, p. 387.

This species, peculiar to the island of Juan Fernandez, was first taken by M. Germain, and described by him as Acupalpus pallipes; but, as I have shown, it is not an Acupalpus; and even if it were, the specific name pallipes was preoccupied by Dejean for a species from Dalmatia. During my visit to Juan Fernandez I took a dozen under stones on the beach.

TRACHYSARUS ANTARCTICUS, n. sp.

Oblongus, fusco-æneus, nitidus; antennis, tibiis, tarsis elytrorumque margine postico et palpis rufo-piceis, his apice pallidis; thorace parvo, quadrato, postice perparum subsinuatim angustato, angulis posticis obtusis sed distinctis, foveis basalibus, latis, punctulatis; elytris parallelis, postice vix sinuatis, supra acute striatis; interstitiis subplanis, tertio post medium unipunctato, secundo ad basin dilatato ibique striola brevi.

Long. 3 lin. ₹ 2.

The male tarsi are only moderately dilated, the joints broad and short, the fourth bilobed, and all densely hairy on the sides, with the squamulæ irregular. The epistome has two foveæ on the sides, in each of which is a sharp line curving to the margin of the eye. The antennæ are rather long, with the third joint densely pubescent, and some hairs on the second. The palpi have no short hairs. The central tooth of the mentum is short and acute. The scutellar striole is sometimes long, and sometimes reduced to a fovea at the extreme base. All the strize are distinct, the seventh, eighth, and ninth much broadened at the apex.

I took half a dozen specimens of this species in Valdivia.

Bradycellus impressifrons, Sol. l. c. p. 265 (Acupalpus).

I am not sure that this species is not a Tachycellus. The middle tarsi of the male are very slightly dilated, and their fourth joint is broad and subbilobed; but I caunot detect any squamulæ on their soles. There is a tooth in the emargination of the mentum; the thorax has distinct hind angles, and the scutellar striole is absent.

From the neighbourhood of Santiago.

Bradycellus Ruficollis, Sol. l. c. p. 267 (Acupalpus).

Closely allied to B. impressifrons, but with the thorax bright red instead of black. I have seen only females.

Central Chile.

BRADYCELLUS UNISTRIATUS.

Bradycellus unistriatus, Dej. Spéc. Gén. v. p. 851 (Acupalpus); Sol. l. c. p. 269 (Acupalpus).

I have not seen any Chilian specimens of this species exactly agreeing with Dejean's description, but have taken an insect differing only in colour, being of a dark brassy-green hue. It has distinct hind angles to the thorax; and the sutural and ninth striæ only are deeply impressed throughout. In some examples there is a long and fine scutellar striole exterior to the sutural striæ. Dejean had only one example.

Southern Chili.

Bradycellus tibialis, Sol. l. c. p. 268 (Acupalpus).

Very similar to B. unistriatus, but much smaller, with black femora and rounded hind angles to the thorax.

Central Chili.

BRADYCELLUS CHILENSIS.

Bradycellus chilensis, Dej. l. c. p. 850 (Acupalpus); Sol. l. c. p. 271 (Acupalpus).

Common throughout Chili.

Bradycellus arcobasis, Sol. l. c. p. 270 (Acupalpus).

Differs from B. chilensis almost solely in its larger size. Equally common.

Obs.—All the above species have a distinct tooth in the emargigination of the mentum, and therefore belong to the genus Bradycellus of modern authors, and not to Acupalpus. The males have the anterior tarsi only very slightly dilated; and when there is a scutellar striole, it is always exterior to the first stria.

ACUPALPUS (?) PALLIDUS, Sol. l. c. p. 264.

ACUPALPUS (?) BIFOSSULATUS, Sol. l. c. p. 266.

I have not been able to recognize either of the above among the large series of this group which I have collected in Chili; I do not know, therefore, whether they really belong to the genus Acupalpus.

## Subfamily TRECHINÆ.

MERIZODUS ANGUSTICOLLIS, Sol. l. c. p. 186.

This genus is very closely allied to Oöpterus of New Zealand; and I am informed by Mr. H. W. Bates that his Oöpterus maceyi, from the Falkland Islands, is a Merizodus, having a bifid tooth to the mentum; in Oöpterus this tooth is simple.

This species is not uncommon in Southern Chili.

TRECHUS CHLOROTICUS, Putzeys, Stett. Zeit. 1870, p. 19.

TRECHUS FERRUGINEUS.

Trechus ferrugineus, Brullé, D'Orb. Voy. Ins. p. 43; Putz. l. c. p. 20.

TRECHUS RUFICOLLIS, Putz. l. c. p. 31.

TRECHUS OBSCURICORNIS, Putz. l. c. p. 32.

TRECHUS CYCLOPTERUS, Putz. l. c. p. 40.

TRECHUS DEPRESSICOLLIS, Putz. l. c. p. 47.

TRECHUS HOLOLISSUS, Putz. l. c. p. 153.

TRECHUS POLITUS.

Trechus politus, Brullé, l. c. p. 43; Putz. l. c. p. 167 (nec Solier, l. c. p. 154).

Trechus lævissimus, Putz. l. c. p. 169.

TRECHUS PROXIMUS, Putz. l. c. p. 169.

Trechus parvicollis, Putz. l. c. p. 170.

TRECHUS SCAPULARIS, Putz. l. c. p. 170.

TRECHUS AXILLARIS, Putz. l. c. p. 171.

TRECHUS ANGUSTATUS, Sol. l. c. p. 155; Putz. l. c. p. 191.

Trechus monolcus, Putz. l. c. p. 191.

Obs.—Many of the above species described by Putzeys being from the collection of M. Germain, who brought to Europe many insects from the Argentine Pampas, as well as from Chili, it is very possible that some may not be really Chilian. Indeed I observe that Putzeys cites sometimes as a locality "Pampas de Chili," a strange geographical confusion, there being no Pampas in Chili. Species somentioned I have excluded from the above list. I have only met with T. scapularis, politus, monolcus, and lævissimus.

TRECHUS NITIDUS.

Trechus nitidus, Germain, Anales de la Universidad de Chile, 1855, p. 387.

TRECHUS PUNCTIVENTRIS, Germ. l. c. p. 388.

Trechus depressus, Germ. l. c. p. 388.

TRECHUS FEMORALIS, Germ. l. c. p. 389.

From the island of Juan Fernandez. This is a very distinct species, not mentioned by Putzeys. Allied to T. antarcticus.

THALASSOBIUS TESTACEUS, Sol. l. c. p. 157.

Supposed to have been found at Valdivia.

ÆMALODERA LIMBATA, Sol. l. c. p. 152.

Var. centromaculata, Sol. l. c. p. 152.

Var. fumosa, Sol. l. c. p. 152.

Found on the sea-coast in Southern Chili.

ÆMALODERA DENTOMACULATA, Sol. l. c. p. 151.

With the preceding.

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## Subfamily BEMBIDIINÆ

TACHYS HYDROPHILUS, Germ. l. c. p. 389 (Bembidium).

From the description, this species no doubt belongs to the almost universally distributed genus *Tachys*.

Pericompsus circuliformis, Sol. l. c. p. 165 (Bembidium). Common in Central Chili. An undoubted Pericompsus.

Bembidium (Philochthus) nigritum, Sol. l. c. p. 167.

Bembidium (Peryphus) maculiferum, mihi (Gemm. & Har. Cat.).

Bembidium maculatum, Sol. l. c. p. 163 (name preoccupied).

Bembidium (Peryphus) spinolæ, Sol. l. c. p. 161. Southern Chili.

Bembidium (Peryphus) chilense, Sol. l. c. p. 162.

I have met with no *Peryphus* so small as the present one, stated by Solier to be only  $1\frac{1}{2}$  line long. The description in other respects applies to some specimens of P. spinolæ; and as the sizes given in Gay's work are seldom exact, I believe this insect is a variety of P. spinolæ.

Bembidium derbesii, Sol. l. c. p. 163.

The affinities of this species are towards the European *B. pallidipenne* and *kusteri*; but it has narrower elytra.

Central Chili.

Bembidium (Lopha) elegans, Sol. l. c. p. 164.

Bembidium (Notaphus) punctigerum, Sol. l. c. p. 166.

Common on the mountains of Aculeo.

Bembidium (Notaphus) servillei, Sol. l. c. p. 174.

Bembidium (Notaphus) aubei, Sol. l. c. p. 174.

Found on the banks of the river Mapocho, in Central Chili. I have seen it under the MS. name of B. nivale; but I believe that it has never been redescribed under that name.

BEMBIDIUM VARICOLOR, mihi.

Bembidium convexiusculum, Sol. l. c. p. 171 (1849), nec convexiusculum, Motsch. 1846.

This species approaches the true Bembidia (B. impressum &c.) in form; but it does not belong to the same group, the eighth and ninth striæ being close together. The colour is variable, bright brassy, dark bronze, and bluish green.

Common in Southern Chili.

Bembidium chlorostictum, n. sp.

Quoad formam B. paludoso simillimum, sed striis 8vo et 9no approx-

imatis. Cupreum vel nigro-cupreum, nitidum; antennis, palpis pedibusque nigris; sulcis frontalibus latis; thorace transversim quadrato, postice perparum angustato, angulis posticis fere rectis, fovea utrinque basali magna punctulata, plicaque elevata elongata juxta angulum; elytris striis omnibus paulo impressis, punctatis, interstitio tertio punctis duobus impressis et vittulis duobus nigro-æneis lævissimis.

Long. 2 lin.

The form of the thorax and the discoloured shining streaks on the third elytral interstice, near the punctures, give this species a strong resemblance to *B. paludosum* and its allies; but the closely approximate eighth and ninth striæ (united near their bases) show that it does not belong to the same group.

Taken on the sea-coast of the Island of Chiloe.

Bembidium mandibulare, Sol. l. c. p. 161.

This species seems to be variable in regard to the proportion of brassy black and pale testaceous markings on the elytra; and I suspect the insect known in some collections under the MS. name of B. fryi is only a variety of it.

Southern Chili.

Bembidium solieri, mihi, Gemm. & Har. Cat.

B. incertum, Sol. l. c. p. 168 (name preoccupied).

BEMBIDIUM MARGINATUM, Sol. I. c. p. 169.

Bembidium fischeri, Sol. l. c. p. 170.

Bembidium sexfoveolatum, Germ. l.c. p. 389.

Common in Central Chili, especially in the mountains of Aculeo.

Bembidium scitulum, Erich. Nov. Act. Leop. Carol. 1834, Suppl. p. 225.

B. fabricii, Sol. l. c. p. 176.

In the neighbourhood of Santiago.

Bembidium melanopodes, Sol. l. c. p. 177.

Bembidium inconstans, Sol. l. c. p. 172.

# Subfamily Dromunæ.

CROSSONYCHUS VIRIDIS, Dej. Spéc. Gén. v. p. 356 (Dromius); Chaudoir, Bull. Mosc. 1848, p. 97.

This species varies much in colour, from clear brassy green and coppery to dull olive-green, and in shape of thorax and strength of striation of elytra; and as all gradations exist, it is impossible to separate the following extreme forms as species:—

Dromius æneus, Dej. l. c. p. 357 = Coptodera ænescens, Motsch. Bull. Mosc. 1864, p. 223 = Coptodera incerta, Sol. l. c. p. 145 (?).

CROSSONYCHUS CHLOROPTERUS, Motsch. Bull. Mosc. 1864, p. 223. This species is common throughout Chili.

MIMODROMIUS CYANIPENNIS, Brullé, Hist. Nat. des Ins. iv. p. 195, t. 6. f. 4 (Dromius).

Calleida cyanoptera, Sol. l. c. p. 137.

Mimodromius cyanipennis, Chaud. Berl. Entom. Zeit. 1873, p. 55.

I have found this species under bark of Salix babylonicus, near Santiago.

Mimodromius Chilensis, Sol. l. c. p. 137 (Calleida).

MIMODROMIUS PHILIPPII, n. sp. (Plate XIII. fig. 1.)

Major, elongatus, depressus, castaneofuscus, nitidus; elytris utrinque ante medium macula rotundata fulvo-testacea.

Long. 5 lin.

This fine species is very similar to M. chilensis, but with the elytra broader and flatter. The head is similarly elongated and tapering behind the eyes, and at the end of the narrowing constricted into a distinct neck. The thorax is relatively small, subcordate, with the hind angles produced and acute. The elytra are widened behind, and very obtusely but broadly truncated at the apex; their surface is faintly punctato-striate, with the interstices punctulate.

A few specimens have been taken near the baths of Chillan.

MIMODROMIUS NIGROFASCIATUS, Sol. l. c. p. 135 (Calleida). Common throughout Chili.

MIMODROMIUS GUTTULA, Sol. l. c. p. 136 (Calleida).

Less common than the preceding. I have only taken it at from 4000 to 8000 feet s.m., in the Andes of the central provinces.

Obs.—The genus Mimodromius was proposed by Baron Chaudoir in the Berliner entom. Zeitschrift, 1873, p. 55, but without characters. These are as follows:—Head elongated, narrowed behind. Mentum trilobate; side lobes triangular, acute. Ligula narrow and scarcely more corneous than the broad paraglossæ, which are adherent; apex bisetose. Palpi truncated, the labials having their terminal joint tumid and subsecuriform. Legs sleuder; penultimate joints of the tarsi sharply emarginate but not bilobed; claws slender and finely pectinated.

This genus is well distinguished from Calleida by the penultimate joints of the tarsi not being bilobed, and by the slender form of the

same members, together with their claws.

PLAGIOTELUM IRIDEUM, Sol. l. c. p. 133. Calleida iridea, Motsch. Bull. Mosc. 1864, iii. p. 238. Southern Chili; scarce.

LOBIUS CYANEUS, Dej. l. c. p. 355, et Sol. l. c. p. 139 (Dromius). Lobius cyaneus, Motsch. Bull. Mosc. 1864, iii. p. 230. A common species in Southern and Central Chili.

LOBIUS NIGROVIRIDIS, Motsch. l. c. p. 230.